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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/853,225	05/11/2001	Geoffrey A. Strongin	2000.038900/TT3762	6355

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EXAMINER

LI, AIMEE J

ART UNIT	PAPER NUMBER
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2183

DATE MAILED: 06/17/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/853,225

Applicant(s)

STRONGIN ET AL.

Examiner

Aimee J. Li

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 May 2001 and 31 March 2005.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-33 is/are pending in the application.
- 4a) Of the above claim(s) 34-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

1. Claims 1-33 have been considered. Claims 34-45 have been withdrawn from consideration.

Papers Submitted

2. It is hereby acknowledged that the following papers have been received and placed of record in the file: Restriction/Election as received on 31 March 2005.

Specification

3. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Claim Objections

4. Claims 7, 18, 24, and 26 are objected to because of the following informalities:
 - a. Please correct claims 7 and 18 from "wherein the predetermined value less than about 2 seconds" to read --wherein the predetermined value is less than about 2 seconds--
 - b. Please correct claim 24 from "wherein the interrupt comprises an SMI, wherein the secure operating mode comprises SMM" to read --wherein the interrupt comprises an ~~SMI~~ system management interrupt (SMI), wherein the secure operating mode comprises ~~SMM~~ system management mode (SMM)-- to establish the meanings of the abbreviations in the independent and its respective dependent claims.

- c. Please correct claim 26 from “wherein asserting a control signal if the first timer has reached the predetermined value includes executing an RSM instruction before an SMI handler exits the system management mode” to read --wherein asserting a control signal if the first timer has reached the predetermined value includes executing ~~an RSM~~ a return from SMM (RSM) instruction before an SMI handler exits the system management mode-- to establish the meanings of the abbreviations in the independent and its respective dependent claims.

5. Appropriate correction is required.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claim 1-2, 4-9, 12-13, 15-20, and 25-33 are rejected under 35 U.S.C. 102(e) as being taught by Angelo et al., U.S. Patent Number 6,581,162 (herein referred to as Angelo).

8. Referring to claim 12, Angelo has taught a computer system, comprising:

- a. A processor (Angelo column 4, lines 15-23); and
- b. A device coupled to the processor (Angelo column 4, lines 34-35), wherein the device includes:
 - i. An indicator configured to indicate when the processor is in a first operating mode (Angelo column 7, line 43 to column 8, line 15);

- ii. A first timer configured to indicate a duration in which the indicator is active (Angelo column 7, line 43 to column 8, line 15); and
- iii. Control logic coupled to receive the duration from the first timer, wherein the control logic is configured to provide a control signal to the processor upon the duration reaching a predetermined value (Angelo column 7, line 43 to column 8, line 15).

9. Claim 12 is substantially equivalent to claims 1, 25, 28, and 31. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

10. Referring to claim 13, Angelo has taught wherein the device comprises a bridge (Angelo column 4, lines 33-34 and 65-67 and Figure 1).

11. Claim 13 is substantially equivalent to claim 2. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

12. Referring to claim 15, Angelo has taught wherein the first operating mode includes a secure operating mode (Angelo column 6, lines 20-22).

13. Claim 15 is substantially equivalent to claim 4. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

14. Referring to claim 16, Angelo has taught wherein the secure operating mode includes SMM (Angelo column 6, lines 20-22).

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15. Claim 16 is substantially equivalent to claim 5. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

16. Referring to claim 17, Angelo has taught wherein the control signal is configured to indicate that the processor should exit the secure operating mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63). In regards to Angelo, the system does not wait indefinitely for input of sensitive data, such as passwords, so there is a timer present to measure a time period and provide a control signal to exit the secure mode in response to the time period.

17. Claim 17 is substantially equivalent to claim 6. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

18. Referring to claim 18, Angelo has taught wherein the predetermined value is less than about 2 seconds (Angelo column 7, line 43 to column 8, line 15). In regards to Angelo, the time period does not matter.

19. Claim 18 is substantially equivalent to claim 7. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

20. Referring to claim 19, Angelo has taught wherein the predetermined value is not substantially less than 200 milliseconds (Angelo column 7, line 43 to column 8, line 15). In regards to Angelo, the time period does not matter.

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21. Claim 19 is substantially equivalent to claim 8. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

22. Referring to claim 20, Angelo has taught wherein the predetermined value is set by software or firmware executing in the device (Angelo column 7, line 43 to column 8, line 15). In regards to Angelo, the timer is inherently set.

23. Claim 20 is substantially equivalent to claim 9. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

24. Referring to claim 26, Angelo has taught wherein determining if the computer system is in a first operating mode includes determining if the computer system is in system management mode (Angelo column 7, line 43 to column 8, line 15), and wherein asserting a control signal if the first timer has reached the predetermined value includes executing a return from SMM (RSM) instruction before an SMI handler exits the system management mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63).

25. Claim 26 is substantially equivalent to claims 29 and 32. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

26. Referring to claim 27, Angelo has taught

- a. Issuing an SMI request (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63);

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- b. The computer system entering system management mode (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63); and
- c. The SMI handler servicing the SMI request (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63);
- d. Wherein executing an RSM instruction before an SMI handler exits the system management mode occurs while the SMI handler is servicing the SMI request (Angelo column 7, line 43 to column 8, line 15 and column 9, lines 52-63).

27. Claim 27 is substantially equivalent to claims 30 and 33. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

Claim Rejections - 35 USC § 103

28. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

29. Claims 3 and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Angelo et al., U.S. Patent Number 6,581,162 (herein referred to as Angelo) in view of Applicant's admitted Prior Art (herein referred to as Prior Art). Referring to claim 14, Angelo has not explicitly taught wherein the bridge comprises a south bridge. However, Angelo has taught that there is a bridge (Angelo column 4, lines 33-34 and 65-67 and Figure 1). Prior Art has taught wherein the bridge comprises a south bridge (Prior Art page 3, line 19 to page 4, line 8). A person of ordinary skill in the art at the time the invention was made would have recognized that

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a south bridge provides interface between elements, thereby ensuring proper communication occurs between elements within the system. Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the south bridge of Prior Art in the device of Angelo to ensure proper communication between elements within the system. Claim 14 is substantially equivalent to claim 3. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

30. Claims 10-11 and 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Angelo et al., U.S. Patent Number 6,581,162 (herein referred to as Angelo) in view of Colvin, U.S. Patent Number 6,044,471 (herein referred to as Colvin).

31. Referring to claims 21 and 22, Angelo has not taught

- a. A second timer configured to indicate a duration since the control signal has been provided (Applicant's claim 21);
- b. Wherein the control logic is further coupled to receive an indication from the second timer of the duration, wherein the control logic is further configured to provide a second control signal upon the duration since the control signal has been provided reaching a second predetermined value (Applicant's claim 21).
- c. Wherein the second control signal is configured to indicate that the processor should enter the secure operating mode (Applicant's claim 22).

32. Colvin has taught

- a. A second timer configured to indicate a duration since the control signal has been provided (Applicant's claim 21) (Colvin column 2, lines 57-60; column 5, lines 36-49);
- b. Wherein the control logic is further coupled to receive an indication from the second timer of the duration, wherein the control logic is further configured to provide a second control signal upon the duration since the control signal has been provided reaching a second predetermined value (Applicant's claim 21) (Colvin column 2, lines 57-60; column 5, lines 36-49).
- c. Wherein the second control signal is configured to indicate that the processor should enter the secure operating mode (Applicant's claim 22) (Colvin column 2, lines 57-60; column 5, lines 36-49).

33. A person of ordinary skill in the art at the time the invention was made would have recognized that the second timer of Colvin improves the security of the system (Colvin column 3, lines 20-27). Therefore, it would have been obvious to a person of ordinary skill in the art at the time the invention was made to incorporate the timer of Colvin to improve system security.

34. Claims 21 and 22 are substantially equivalent to claims 10 and 11. The differences between the claims are in the type of apparatus or method language. The rejection used above for claim 12 is used for similar limitations found within these claims.

35. Referring to claim 23, Angelo has taught a register coupled to receive a jump address for an interrupt, wherein the jump address corresponds to the processor entering the secure operating mode (Angelo column 8, lines 12-15; column 9, lines 23-51).

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36. Referring to claim 24, Angelo has taught wherein the interrupt comprises a system management interrupt (SMI) wherein the secure operating mode comprises system management mode (SMM) (Angelo column 8, lines 12-15; column 9, lines 23-51).

Conclusion

37. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure as follows. Applicant is reminded that in amending in response to a rejection of claims, the patentable novelty must be clearly shown in view of the state of the art disclosed by the references cited and the objections made. Applicant must also show how the amendments avoid such references and objections. See 37 CFR § 1.111(c).

- a. Yuen, U.S. Patent Number 5,357,628, has taught a device with a system management mode.
- b. Angelo et al., U.S. Patent Number 5,748,888, has taught a device with a security mode.
- c. Hunter et al., U.S. Patent Number 5,920,850, has taught a device with a timer before lockout to the system.
- d. "Newbie Question: SMI (what is it)?" ©2000 has taught a system management interrupt.
- e. Robert R. Colins's "Intel's System Management Mode" and "The Caveat of System Management Mode" ©1999 have taught SMM.


38. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Aimee J. Li whose telephone number is (571) 272-4169. The examiner can normally be reached on M-T 7:30am-5:00pm.

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39. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Eddie Chan can be reached on (571) 272-4162. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

40. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AJL
Aimee J. Li
11 June 2005



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